AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. – 32. (canceled)

33. (new) A method comprising:

determining a respiratory cycle length;

determining an atrial overdrive pacing rate based on the respiratory cycle length, wherein the atrial overdrive pacing rate is above an intrinsic atrial rate;

delivering a plurality of pacing pulses to an atrium at the atrial overdrive pacing rate;

determining a plurality of atrioventricular conduction interval times based on the plurality of pacing pulses;

determining a subsequent respiratory cycle length based on the plurality of atrioventricular conduction interval times; and

adjusting the atrial overdrive pacing rate based on the subsequent respiratory cycle length.

34. (new) The method of claim 33 further comprising comparing the atrioventricular conduction intervals over a period of time encompassing a plurality of respiratory cycles to detect an interval pattern indicative of either normal respiration or abnormal respiration.

35. (new) The method of claim 34 wherein normal respiration in indicated by a substantially cyclical interval pattern during the period of time.

36. (new) The method of claim 34 wherein abnormal respiration in indicated by the absence of a substantially cyclical interval pattern during the period of time.

37. (new) The method of claim 34 wherein determining a subsequent respiratory cycle length based on the plurality of atrioventricular conduction interval times comprises:

noting the presence of a substantially cyclical interval pattern during the period of time; and

deriving the subsequent respiratory cycle length from the substantially cyclical interval pattern.

38. (new) An implantable cardiac stimulation system comprising:

sensing circuitry operative to sense atrial and ventricular events; and

a processor connected to the sensing circuitry and operative to:

determine a respiratory cycle length;

determine an atrial overdrive pacing rate based on the respiratory cycle length, wherein the atrial overdrive pacing rate is above an intrinsic atrial rate;

deliver a plurality of pacing pulses to an atrium at the atrial overdrive pacing rate;

determine a plurality of atrioventricular conduction interval times based on the plurality of pacing pulses;

determine a subsequent respiratory cycle length based on the plurality of atrioventricular conduction interval times; and

adjust the atrial overdrive pacing rate based on the subsequent respiratory cycle length.